ANATECH ELECTRONICS INC

AT THE CENTER FREQUENCY

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# What's News...

## Amazon Creates Yet Another Wi-Fi Protocol

As if here weren't enough already, Amazon just introduced Sidewalk, which he claims will provide longer-range than conventional Wi-Fi and Bluetooth using lower power (and thus increasing battery life), allowing it to be used beyond the confines of a home or business. The company is hoping that manufacturers will adopt it so users can replace Bluetooth, 5G, and other standards. Sidewalk operates at 900 MHz with very low data rates and narrow bandwidth, increasing range in building penetration. It also supports mesh networking. As an example, it demonstrated a pet tracker called Fetch that looks like a key fob and attaches to a pet's collar. When the tracker leaves a Geo fenced area, you're notified on a smart phone app.

## Verizon Thinks It Can Replace Wi-Fi with 5G

In a bold statement during a Citi investor conference, Verizon Executive Vice President and consumer group CEO Ronan Dunne said "we don't see there's need for Wi-Fi in the future because we have a more secure network environment (5G). We have much higher performance criteria and we have the ability to hand off sessions, etc.., so fully deployed, there are environments in which public Wi-Fi will be eliminated in favor of millimeter wave because of security, reliability, and service capabilities." Also during the event, the company noted that it is already working on repeaters and nodes for indoor environments so they can cover them with 5G.

# A Word from Sam Benzacar

## Some Good News on IoT Wireless Protocol Incompatibility

### By Sam Benzacar

There's been some good news lately concerning the issue of incompatible short-range wireless communication standards for IoT: A wave of collaboration among vendors, so that products, even if using different protocols, can work together in the future. This wouldn't have been a major problem if there were only two or three protocols to contend with, but for IoT there are at least a half dozen, and the result has been chaos and confusion for everyone, from designers to end users.

IoT really got its start in residential applications such as HVAC controls and LED "smart" lighting, but currently includes everything from door locks, doorbells, and digital assistants, to home surveillance systems, along with subwoofers and complete whole-home audio systems, and more. As there has been no single communications standard, manufacturers of these "edge devices" chose one (like ZigBee) and used it for their entire product line. When Google entered the market with the Nest thermostat it used a protocol it developed (Thread), and still others used Z-Wave. When Bluetooth got mesh networking capability in Version 5.1, some manufacturers hopped on this bandwagon, too. As more and more companies got into home automation, the result was (and is) incompatibility between devices, making it almost impossible to control all of them easier. Add to this the fact that all edge devices manufacturers all have their own application software, and the result is like the typical home entertainment scenario with multiple remotes sitting on an end table.

To solve this problem, the latest trend is the home automation gateway, which accepts signals from multiple protocols, aggregates them, and sends the result to Wi-Fi or a cable modem via Ethernet and then out to the Internet. They also include support for iOS, Android, and Windows, and other features such as security services.

A good example is Samsung's SmartThings hub—but even it doesn't support Bluetooth, doesn't support all features of all devices, and isn't all that easy to set up. And of course, this adds yet another element to the mix, which creates the possibility that the signals in some parts of a home may not be receivable by the gateway. In short, this is clearly not the way IoT should be done, and the industry knows it.

So, a group called the Open Connectivity Foundation introduced itself at CES 2020 as being dedicated to "solving the IoT standards gap" with


## Bluetooth LE Audio Delivers Better Audio Quality

The latest version of Bluetooth, called LE Audio, is designed to deliver better audio quality, support for hearing aids, lower power consumption because of lower bit rate, and the ability for an unlimited number of uses to connect to one Bluetooth-enabled device through audio sharing. The Bluetooth Special Interest Group is expected to release the specifications in the first half of this year, so the first devices to support it were likely to be available at the beginning of next year.

## Soon to Come: Wi-Fi 6E

In anticipation of an FCC rulemaking concerning additional spectrum, the Wi-Fi Alliance is attempting to distinguish the currently available Wi-Fi 6 (formally called IEEE 802.11ax) by coining the term Wi-Fi 6E (the E is for extension). The point of this exercise is to let users recognize that it incorporates all the features of Wi-Fi 6 with new benefits afforded by operation at 6 GHz (rather than 2.4 and 5 GHz as it does today. When this band becomes available it should offer greater bandwidth and thus wider channel sizes, less interference with legacy devices, and higher data rates.


an approach and accompanying specification to create a single open standard through which all devices connect, including Wi-Fi, Bluetooth, ZigBee, Z-Wave, and Ant+. There's also Project Connected Home created by Amazon, Apple, Google, and the Zigbee Alliance that plans to develop an open-source connectivity standard to increase compatibility among smart home products.

It will take at least a year before any of this bears fruit, but it's a good start, and not a moment too soon, because IoT early adopters have already had enough of trying to make IoT decipherable by mere mortals.

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